



Attorney's Docket No.: 10638-037001 / 952/33

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Moshe Rock et al.  
Serial No. : 09/624,660  
Filed : July 25, 2000  
Title : PLAITED DOUBLE KNIT FABRIC WITH MOISTURE MANAGEMENT AND IMPROVED THERMAL INSULATION

Art Unit : 1771  
Examiner : Norca Liz Torres Velazquez

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

BRIEF ON APPEAL FROM FINAL OFFICE ACTION MAILED JANUARY 20, 2004

**(1) Real Party in Interest**

Malden Mills Industries, Inc.

**(2) Related Appeals and Interferences**

There are no pending related appeals or interferences.

**(3) Status of Claims**

Claims 1-8 and 10-32 are pending. Claims 19-32 have been indicated to be allowable. Claims 1-8 and 10-18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,312,667 to Lumb *et al.* ("Lumb") in view of either Japanese Patent 09-087901A to Fujiwara *et al.* ("Fujiwara") or Japanese Patent 02-182968 to Toshio *et al.* ("Toshio").

**(4) Status of Amendments**

All amendments have been entered. No amendments are submitted herewith.

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I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**(5) Summary of Invention**

Claims 1-8 and 10-18 all feature a composite textile fabric that includes an inner fabric layer and an outer fabric layer, which are formed concurrently by knitting a plaited construction. Both the inner fabric layer and outer fabric layer are made of yarns having a plurality of fibers of polyester or other synthetic yarn that have been rendered hydrophilic. The inner fabric layer has a surface area enlarged by a raising process that creates air spaces among the fibers, enhancing insulation performance and reducing contact of the inner fabric layer upon a wearer's skin. Particles of a refractory compound are embedded within the plurality of yarn fibers of the inner fabric layer.

**(6) Issues**

Are claims 1-8 and 10-18 obvious under 35 U.S.C. § 103 over Lumb in view of Fujiwara or Toshio?

**(7) Grouping of Claims**

Claims 1-8 and 10-18 stand or fall together.

**(8) Argument**

Claims 1-8 and 10-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lumb in view of either Fujiwara or Toshio.

The Examiner asserts that Lumb provides the structure of the composite textile fabric of the present invention. (See, final office action, page 2, section 1.) The Examiner then relies on Fujiwara and Toshio to provide Lumb with yarn fibers embedded with a refractory compound to further improve the heat insulation effect of the fabric. (Id.) In conclusion, the Examiner asserts that it would have been obvious to modify Lumb to incorporate refractory compounds into the fabric construction of Lumb.

However, the claims recite more than simply the incorporation of refractory particles into a fabric construction. Instead, the claims recite that the refractory particles are embedded within the yarn fibers of the inner fabric layer that has a surface area enlarged by a raising process,

which creates air spaces among the fibers to enhance insulation performance and for reducing contact of the inner fabric layer upon a wearer's skin. Nowhere does the Examiner provide evidence that one skilled in the art would have been motivated to incorporate yarn having refractory particles embedded therein into an inner layer of a fabric that has a surface area enlarged by a raising process as recited in claims 1-8 and 10-18.

“In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention.” (See, *Karsten Manufacturing Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385 (Fed. Cir. 2001) Emphasis added.)

Both Fujiwara and Toshio teach fabrics where the refractory particles are held in close proximity to the wearer's skin. For example, the fabric in Fujiwara is a very thin stocking fabric where the entire fabric body is in close proximity to the skin. In Toshio, the fabric has a pile surface with fiber tips split at the ends and refractory particles sprayed or otherwise coated onto these fiber tips after splitting. Due to the inherent nature of pile fabrics, in Toshio the refractory particles deposited by the sprayed or coated solution remain at or close to the surface, with only minimal penetration into the pile. Thus, in the Toshio fabric, the refractory particles will be in contact with the wearer's skin.

Because both Fujiwara and Toshio disclose refractory particles positioned in close proximity to a user's skin, nothing in the prior art of record would have let the artisan to choose the features from the either Fujiwara or Toshio and combine them with Lumb to provide a product having refractory particles positioned for reduced contact with a user's skin. Without such a motivation, a *prima facie* case of obviousness has not been met. Instead, the Examiner is improperly relying on hindsight reconstruction of the references to deprecate the invention. (See, e.g., *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).) For at least these reasons, Applicants submit that the final rejection should be reversed.

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Respectfully submitted,

Date: \_\_\_\_\_

June 25, 2009

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### **Appendix of Claims**

1. A composite textile fabric comprising an inner fabric layer made of a yarn comprising a plurality of fibers of polyester or other synthetic yarn which have been rendered hydrophilic, and an outer fabric layer made of a yarn comprising a plurality of fibers of polyester or other synthetic yarn which have also been rendered hydrophilic;

wherein the inner fabric layer and outer fabric layer are formed concurrently by knitting a plaited construction;

wherein particles of a refractory compound are embedded within said plurality of yarn fibers of said inner fabric layer; and

wherein said inner fabric layer has a surface area enlarged by a raising process for creating air spaces to enhance insulation performance and for reducing contact of the inner fabric layer upon a wearer's skin.

2. The textile fabric of Claim 1, wherein said other synthetic yarn of each of said fabric layers is selected from the group consisting of acrylic, polypropylene and nylon.

3. The textile fabric of Claim 1, wherein the denier ratio of the yarn fibers of the inner fabric layer is at least as great as the denier of the yarn fibers of the outer fabric layer.

4. The textile fabric of Claim 1, wherein the denier of the yarn of the inner fabric layer is no greater than the denier of the yarn of the outer fabric layer.

5. The textile fabric of Claim 1, wherein the denier of the yarn fibers of the inner fabric layer is at least as great as the denier of the yarn fibers of the outer fabric layer and the denier of the yarn of the inner fabric layer is no greater than the denier of the yarn of the outer fabric layer.

6. The textile fabric of Claim 4, wherein the yarn fibers of the inner fabric layer have a denier of between about 0.7 and 6.0 and the yarn fibers of the outer fabric layer have a denier of between about 0.3 and 2.5.

7. The textile fabric of Claim 5, wherein the yarn of the outer fabric layer has a denier between about 100 and 300 and the yarn of the inner fabric layer has a denier of between about 50 and 150.

8. The textile fabric of Claim 1, wherein said compound is selected from the group consisting of titanium carbide, zirconium carbide and hafnium carbide.

10. The textile fabric of Claim 1, wherein the yarn of the inner layer is a small denier filament yarn.

11. The textile fabric of Claim 1, wherein the yarn of the outer fabric layer is spun, multifilament or a combination thereof.

12. The textile fabric of Claim 11, wherein the yarn fibers of the outer fabric layer are air jet spun.

13. The textile fabric of Claim 1, wherein said fabric is selected from the group comprising two-end fleece, three-end fleece, terry with regular plaiting, double terry, tricot, single knit jersey and double knit jersey fabrics.

14. The textile fabric of Claim 1, wherein each of said layers has an elastomeric yarn plaited therein.

15. The textile fabric of Claim 1, wherein the fabric has a weight per unit area of between about 2 ounces/yard<sup>2</sup> and 20 ounces/yard<sup>2</sup>.

16. The textile fabric of Claim 1, wherein the yarn fibers of the outer fabric layer are more hydrophilic than the yarn fibers of the inner fabric layer.

17. The textile fabric of Claim 1, wherein the outer fabric layer includes yarn fibers made of cotton or other absorbent fibers that are blended with the yarn fibers made of a polyester or other synthetic material.

18. The textile fabric of Claim 1, wherein said inner fabric layer has a surface area that is enlarged by a raising process selected from the group consisting of sanding, napping and brushing.

19. A composite textile fabric comprising an inner fabric layer made of a yarn comprising a plurality of fibers of polyester or another synthetic yarn which have been rendered hydrophilic and an outer fabric layer made of a yarn comprising a plurality of fibers of polyester or other synthetic yarn which have also been rendered hydrophilic;

wherein the two fabric layers are formed concurrently by knitting a plaited construction;  
wherein said inner fabric layer is treated by metal vapor deposition in order to provide a metal vapor deposit thereon.

20. The textile fabric of Claim 19, wherein said vapor deposit utilizes a metal selected from the group including aluminum and copper.

21. The textile fabric of Claim 19, wherein the denier of the yarn fibers of the inner fabric layer is at least as great as the denier of the yarn fibers of the second or outer fabric layer.

22. The textile fabric of Claim 19, wherein the denier of the yarn of the inner fabric layer is no greater than the denier of the yarn of the second or outer fabric layer.

23. The textile fabric of Claim 19, wherein said inner fabric layer has a raised surface.

24. The textile fabric of Claim 19, wherein the denier of the yarn fibers of the inner fabric layer is at least as great as the denier of the yarn fibers of the outer fabric layer and the denier of the yarn of the inner fabric layer is no greater than the denier of the yarn of the outer fabric layer.

25. The textile fabric of Claim 21, wherein the yarn fibers of the inner fabric layer have a denier of between about 0.7 and 6.0 and the yarn fibers of the outer fabric layer have a denier of between about 0.3 and 2.5.

26. The textile fabric of Claim 22, wherein the yarn of the outer fabric layer has a denier between about 100 and 300 and the yarn of the inner fabric layer has a denier of between about 50 and 150.

27. The textile fabric of Claim 19, wherein the yarn of the outer fabric layer is spun, multifilament or a combination thereof.

28. The textile fabric of Claim 19, wherein each of said layers has an elastomeric yarn plaited therein.

29. The textile fabric of Claim 19, wherein the fabric has a weight per unit area of between about 2 ounces/yard<sup>2</sup> and 20 ounces/yard<sup>2</sup>.

30. The textile fabric of Claim 19, wherein the yarn fibers of the outer fabric layer are more hydrophilic than the yarn fibers of the inner fabric layer.

31. The textile fabric of Claim 19, wherein the outer fabric layer includes yarn fibers made of cotton or other absorbent fibers that are blended with yarn fibers made of a polyester or other synthetic material.

32. The textile fabric of Claim 23, wherein said inner fabric layer has a surface area that is enlarged by a raising process selected from the group consisting of sanding, napping and brushing.